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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,686	12/08/2000	Alexander Goldovsky	9	3232

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EXAMINER

DO, CHAT C

ART UNIT PAPER NUMBER

2124

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/733,686	Applicant(s) GOLDOVSKY, ALEXANDER	
	Examiner Chat C. Do	Art Unit 2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-7, 9-17 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Amendment filed 06/14/2004.
2. Claims 1-2 and 4-17 are pending in this application. Claims 1, 5-7, and 16-17 are independent claims. In Amendment, claim 3 is cancelled and claims 1 and 16-17 are amended. This action is made non-final.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the multiplexer.

Re claim 6, it recites a limitation of a multiplexer which comprising general inputs and an output. However, the claim does not disclose how the multiplexer is arranged or structured in related with other elements in the claim. Thus, the claims is incomplete for omitting structural relationships of the multiplexer with other elements in the claim such omission amounting to a gap between the necessary structural connections. Claim 7 has the same problem.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 4, and 10-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rim (U.S. 5,907,498).

Re claim 1, Rim discloses in Figure 3 an adder (abstract) comprising: a plurality of computational stages each associated with one or more bit positions of the adder (e.g. 32 bits), the plurality of computational stages (e.g. shift and ALU) including one or more computational stages for generating a sum output signal (e.g. output of ALU 14) and a primary carry-output signal of the adder; and a flag generation circuit (e.g. 15) coupled to at least one signal line of at least one of the computational stages (output of 11, 13, and 14) and operative to generate an overflow flag (output of 15) for the adder (Figure 3), the overflow flag being separate and distinct from the primary carry-output signal (e.g. 15 is only needed the carry C30 from the ALU wherein the C30 is not the primary carry-output), the overflow flag being generated substantially in parallel with the generation of at least one of the sum output signal and the primary carry-output signal of the adder (the overflow flag and sum of the ALU is in parallel) wherein the adder comprises an a-bit adder and the primary carry-output signal comprises a primary carry-output signal c_{n-1} of the n-bit adder (carry-out bit of the ALU).

Art Unit: 2124

Re claim 2, Rim discloses in Figure 3 an a-bit adder and the sum output signal comprises a final sum bit s_{n-1} of the a-bit adder (output of ALU 14).

Re claim 4, Rim discloses in Figure 3 a generation circuit does not require the primary carry-output signal to generate the overflow flag for the adder (e.g. 15 is only needed the carry C30 from the ALU wherein the C30 is not the primary carry-output).

Re claims 10-15, Rim discloses in Figure 3 the adder comprises a carry-lookahead adder, a carry-skip adder, a carry-ripple adder, a carry-save adder, a radix-2 adder, a non-radix-2 adder (e.g. ALU 14).

Re claim 16, it is an integrated circuit claim of claim 1. Thus, claim 16 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 17, it is a method claim of claim 1. Thus, claim 17 is also rejected under the same rationale in the rejection of rejected claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being obvious over Rim (U.S. 5,907,498) in view of Poon (U.S. 5,257,218).

Re claim 9, Rim does not disclose a prefix tree adder having a plurality of prefix trees, each associated with one of the bit positions of the adder and

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Art Unit: 2124

including one or more of the computation stages. However, the prefix tree adder is known in art as seen in Poon wherein Poon discloses in Figures 8-15 a prefix tree adder having a plurality of prefix trees, each associated with one of the bit positions of the adder and including one or more of the computation stages.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add a prefix tree adder having a plurality of prefix trees, each associated with one of the bit positions of the adder and including one or more of the computation stages as seen in Poon's invention into Rim's invention because it would enable to increase the system performance by rippling the carry across operands.

Allowable Subject Matter

9. Claim 5 is allowed.
10. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
11. Claims 6-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Response to Arguments

12. Applicant's arguments with respect to claims 1-2, 4, and 6-17 have been considered but are moot in view of the new ground(s) of rejection.

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Art Unit: 2124

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 5,260,890 to Suzuki discloses an overflow detection system and its circuit for use in addition and subtraction and Figure 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2124

July 26, 2004



**CHUONG DINH NGO
PRIMARY EXAMINER**

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